

**1997 HIV Consensus Report on
HIV Prevalence and Incidence in San Francisco**

San Francisco Department of Public Health
HIV Seroepidemiology Unit

Prepared by

Kimberly Page Shafer, PhD, MPH
William McFarland, MD, PhD
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1. Summary and Main Conclusions

The following report summarizes estimates of the prevalence and incidence of HIV infection in San Francisco in 1997. Estimates are based on the expert opinions of researchers, epidemiologists, and services providers attending the 1997 HIV Consensus Meeting convened on May 12, 1997 by the San Francisco Department of Public Health HIV Seroepidemiology Unit (see Appendix A for list of participants and invitees). The meeting consisted of presentations and discussions of recent, empirical data on HIV prevalence and incidence in diverse populations in San Francisco.

The number of persons living with HIV in San Francisco was estimated at 15 249 representing approximately 2% of the entire population. The majority of HIV infections have sex with men (MSM) (86%), followed by injection drug use (IDU) (12%), and heterosexual men and women (3%). Based on current estimates, 99 new HIV infections will occur in the next year, with 50% among IDU. Heterosexual men and women will account for 3% of new infections in 1997. These figures are substantially lower than those reported at the meeting held in 1991 (see Appendix B). Declines in the number of new infections can be attributed to: (1) more accurate identification of persons at risk, (2) decreased rates of new infection, due to successful prevention efforts, and (3) AIDS deaths. Declines in HIV transmission categories reflect the current state of the HIV/AIDS epidemic in San Francisco and the success of prevention efforts among populations at risk. The low level of HIV prevalence and incidence are currently low point to opportunities to prevent further transmission.

Estimates suggest that HIV prevention efforts in San Francisco have been successful, not only among the highest risk populations (e.g., MSM), but among all populations. Declines in both prevalence and incidence since the 1991 HIV Consensus Meeting follow comprehensive community-based prevention efforts among MSM and intensification of harm-reduction efforts among IDU, such as needle-exchange.

1. Summary and Main Conclusions

The following report summarizes estimates of the prevalence and incidence of HIV infection in San Francisco in 1997. Estimates are based on the expert opinions of researchers, epidemiologists, and services providers attending the 1997 HIV Consensus Meeting convened on May 12, 1997 by the San Francisco Department of Public Health HIV Seroepidemiology Unit (see Appendix A for list of participants and invitees). The meeting consisted of presentations and discussions of recent, empirical data on HIV prevalence and incidence in diverse populations in San Francisco.

The number of persons living with HIV in San Francisco was estimated at 15,249 representing approximately 2% of the entire population. The majority of HIV infections are among men who have sex with men (MSM) (86%), followed by intravenous drug users (IDU) (12%), and heterosexual men and women (3%). Based on these data, an estimated 499 new HIV infections will occur in the next year, with 67% among MSM, and 23% among IDU. Heterosexual men and women will account for 9% of incident infections in 1997. These figures are substantially lower than estimates made at a similar meeting held in 1991 (see Appendix B). Declines in the estimated existing and projected new infections can be attributed to: (1) more accurate information on the populations at risk, (2) decreased rates of new infection, due substantially to successful HIV prevention efforts, and (3) AIDS deaths. Declines in HIV incidence were noted in all transmission categories.

Assessment of the current state of the HIV/AIDS epidemic in San Francisco provides an opportunity to evaluate prevention efforts among populations at risk. Additionally, populations in which HIV prevalence and incidence are currently low point to opportunities to prevent further transmission.

Estimates suggest that HIV prevention efforts in San Francisco have been successful, not only among the highest risk populations (e.g., MSM), but among all populations. Declines in both prevalence and incidence since the 1991 HIV Consensus Meeting follow comprehensive community-based prevention efforts among MSM and intensification of harm-reduction efforts among IDU, such as needle-exchange.

Despite encouraging trends, estimates of HIV prevalence and incidence remain unacceptably high. Estimates presented here underscore the need to maintain current, effective prevention programs. Moreover, to sustain behavior change over long periods of time and to keep pace with evolving therapeutic advances, prevention efforts need to be repeated, updated, and presented through a variety of media and programs. Increasing current resources is critical to prevent further transmission and avert the development of future "waves" of HIV infection among new generations or persistently vulnerable populations. For health care planning purposes the high prevalence of HIV in San Francisco underlines the tremendous service needs of this population.

The following list highlights key findings from the 1997 HIV Consensus Meeting. A summary of HIV prevalence and incidence by risk populations is presented in Table 1 that follows.

- 1.1. An estimated 15,249 men, women and children are currently living with HIV infection in San Francisco, representing approximately 2% of the City's population.
- 1.2. It is estimated that there will be 499 new HIV infections this year (1997).
- 1.3. The highest proportion of prevalent HIV infections is among men who have sex with: 86%. It is estimated that 13,135 MSM (including MSM injection drug users) are currently living with HIV infection, and that 336 will become infected this year. It was estimated that 33% of MSM over age 30 are HIV infected, compared to 45% in 1991. HIV prevalence among MSM under 30 years of age was estimated to be 15%.
- 1.4. An estimated 1,560 male and female injection drug users (IDU) are currently living with HIV infection in San Francisco and 117 are expected to become infected during 1997. (This number does not include MSM-IDU which are

presented with the MSM risk group above).

- 1.5. An estimated 822 women are living with HIV in San Francisco. Of these, 540 (66%) are believed to be infected due to injection drug use and 282 (34%) due to sexual transmission. An additional 69 women are expected to become infected this year. From 1991 to 1997, HIV incidence estimates declined from 2% to 1% among female IDU, and from 0.03% to 0.01% among female non-IDU.
- 1.6. The lowest prevalence and incidence of HIV infections in San Francisco are among heterosexual men; an estimated 156 heterosexual, non-IDU men are living with HIV and 16 are expected to acquire HIV infection this year.
- 1.7. Currently, there are an estimated 66 pediatric cases of HIV infection in San Francisco. It is anticipated that there will be 1 case of HIV infection among infants born in 1997.
- 1.8. Consistent with national estimated, the risk of transfusion transmission of HIV in San Francisco is on the order of 1 per 300,000 units of blood. Only 1 or no cases of HIV transmission can be attributed to contaminated blood products in San Francisco each year.

Table 1. Estimated HIV incidence and prevalence in San Francisco 1997

| Risk Group | Population Size | Prevalence | | Incidence | |
|---------------------------------|-----------------|------------|-------|-----------|--------|
| | | N | % | N | % |
| Men who have sex with men (MSM) | | | | | |
| MSM Non-IDU | 39,000 | 11,700 | 30% | 283 | 1.1% |
| <i>Young (<30)</i> | 6,300 | 945 | 15% | 64 | 1.2% |
| <i>Older (30+)</i> | 32,700 | 10,755 | 33% | 219 | 1.0% |
| MSM-IDU | 4,100 | 1,435 | 35% | 53 | 2.0% |
| Subtotal | 43,100 | 13,135 | 30.5% | 336 | 1.1% |
| Heterosexual Male & Female IDUs | | | | | |
| Heterosexual Male | 8,500 | 1,020 | 12% | 76 | 1.0% |
| Women | 4,500 | 540 | 12% | 41 | 1.0% |
| Subtotal | 13,000 | 1,560 | 12% | 117 | 1.0% |
| Other Adult/Adolescents | | | | | |
| Heterosexual Male | 259,384 | 156 | 0.06% | 16 | 0.006% |
| Women | 281,911, | 282 | 0.10% | 28 | 0.01% |
| Trans/Blood disorders | | 50 | | 1 | |
| Subtotal | 541,295 | 488 | | 45 | |
| Infants/Children (≤13) | 105,000 | 66 | 0.06% | 1 | 0.001% |
| Total | | 15,249 | | 499 | |

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2. Purpose and goals

The specific goals of the 1997 HIV Consensus Meeting were: (1) to assemble a panel of local experts in HIV and AIDS research; (2) to present and discuss recent, local data on HIV prevalence and incidence among diverse risk populations; (3) to record participants' opinions on the current level and future direction of the epidemic; and (4) to arrive at a consensus on the best estimate of HIV prevalence and incidence in San Francisco in 1997. Resulting estimates are intended to guide prevention efforts in the fight against HIV infection.

3. Methods

A modified Delphi process was used to synthesize the opinions of participants. Participants were given the previous 1991 HIV Consensus Report and other HIV prevalence and incidence estimates prior to the meeting. Presentations of data from completed and on-going studies within each risk population were made on the day of the meeting. Overall estimates of HIV incidence and prevalence for each risk population were arrived at by voting consensus after discussion and deliberation by the group. Discussion and voting were moderated by Dr. George Rutherford. Transcripts of the meeting were reviewed and summarized. A draft report was then circulated to all participants for comment and revision. Figures presented here represent final, revised estimates.

4. Definitions

The prevalence of HIV was defined as the proportion of the total risk population infected with HIV in 1997. The incidence of HIV was defined as the proportion of the susceptible (uninfected) population acquiring HIV infection in 1997. Voting on prevalence and incidence estimates was restricted to the following risk populations: gay/bisexual men, gay/bisexual male injection drug users, heterosexual male and female injection drug users, heterosexual men, women, transfusion recipients, and children. Empirical data on HIV prevalence and incidence within these risk populations

originated from: probability samples of San Francisco neighborhoods; on-going cohort studies of MSM; venue-based samples of MSM, street-sampled IDU and homeless populations; clinic-based unlinked serosurveys; studies of heterosexual partners; street-based samples of youth; and blood donors. A bibliography of studies included in this report is provided in Appendix D.

5. Risk population size estimates.

Population estimates were based on the 1990 Census. Totals for adults reflect the population under age 65. Totals for infants and children are based on the population aged 13 and under.

MSM population size estimate. Estimates of the number of MSM in San Francisco were largely drawn from the Gay Urban Men's Study (GUMS) (Joe Catania). GUMS uses a combination of data sources (AIDS cases by zip code, commercial mailing lists by zip code, US Census data on male partnered households by census tract) to estimate the proportion of MSM households in San Francisco. The GUMS surveyed 14 zip codes that represent areas of highest MSM density in San Francisco (approximately 85% of MSM households), determined the prevalence of MSM households and the median numbers of MSM per household. This provided an estimated count of MSM in these 14 zip codes and a basis for estimating the number of MSM in the remaining 12, low density zip codes. Compiling all sources and reliability testing suggest that 13.4% of the male population in San Francisco are MSM, with an absolute range of 34,739 to 44,500. The estimate of 43,100 as the MSM population size for the 1997 Consensus Meeting was arrived at by the group after consideration of the following points: (1) agreement was reached that the GUMS range was plausible; (2) 39,000 of the total were estimated to be non-IDU MSM; (3) MSM-IDU were estimated to number 4,100 individuals. Further stratification by age groups estimated that: (1) 6,300 (16%) of MSM were under 30 years of age; and (2) that 33,000 (84%) were 30 years and older. Although these estimates may be the most reliable to date, limitations were noted: (1) the GUMS estimates are point estimates and do not reflect

short-term residence or migration; (2) younger MSM are more likely to be transient or recent residents and therefore more likely to be under-counted; (3) the GUMS study would under-count MSM who were not sexually active since adolescence or who were closeted; (4) MSM in multi-residence or non-residence situations may be under-counted; and (5) the GUMS may under-count ethnic minorities, especially closeted ones. In spite of these limitations, the GUMS represents the most recent, scientifically rigorous attempt to estimate the MSM population in San Francisco.

IDU population size estimate. The number of IDU in San Francisco was estimated at 13,000 (John Newmeyer). This number does not include the number of MSM-IDU (N=4,100), which were included in the MSM population size estimate. The number of male IDU was estimated as 8,500; the number of female IDU was estimated as 4,500. The estimates of the number of IDU were based on data from several sources and included the following considerations: (1) the lower boundary of the population size was based on the number of IDU using needle exchange programs, 10,000; (2) the number in treatment representing approximately 1/3 of the total IDU population; (3) there may be under-counted cases of young, new IDU in the city; and (4) there is uncertainty as to whether increases in new IDU equal losses due to cessation and death.

Other population estimates. Estimates of the number of other adults and adolescents were obtained by subtracting the number of MSM and IDU from total population estimates of adults under age 65 from the 1990 Census. The estimated numbers of infants and children (≤ 13 years) were also based on the 1990 Census.

6. HIV prevalence and incidence estimates by risk populations

MSM. The most comprehensive data on prevalence and incidence of HIV infection were available for MSM, the population which continues to be the most severely affected by the epidemic in San Francisco.

HIV prevalence and incidence data were presented from the San Francisco Young Men's Health Study (SFYMHS) and the Multicultural Men's Health Study

(GUMS) a subset of the GUMS (Dennis Osmond). Estimates are presented in Table 2. HIV prevalence ranged from 9% among 18 to 29 year olds to 38% among 40 to 59 year olds in the GUMS. Prevalence data from the GUMS (N=783) were based on self-reported HIV status and results from a home HIV test. In the SFYMHS, HIV prevalence ranged from 12% to 18% among 18 to 29 year olds depending on the sample design. SFYMHS follows a cohort of MSM (N=428) recruited in 1992 from a population-based sample of single men age 29 and younger. HIV incidence in this cohort is 1.6% per year. Additionally, the SFYMHS recruited a referral sample (n=565) of other MSM whose observed HIV incidence is 1.2% per year. In the SFYMHS, prevalence and incidence are measured by both serology and self-report. Concordance between self-reported results and the home HIV test kit were high. Differences in HIV prevalence between the SFYMHS and GUMS may be attributed to: (1) the SFYMHS sample was concentrated in the Castro, while the GUMS extended to neighborhoods with a somewhat lower MSM population density; and (2) GUMS prevalence was largely based on self-report, which may be an underestimate of true HIV prevalence.

A presentation was made on statistically modeling HIV incidence based on the SFYMHS data (Sally Blower). These analyses demonstrate that some older seropositive men have been an important source of HIV infection for some of the young gay men. HIV incidence was estimated to be 1% per year among 18 to 24 year old MSMs, and 2% per year among 25 to 29 year old MSMs (Table 2). Analyses of the SFYMHS data have led to the identification of sexual partner selection as a new risk factor for HIV acquisition.

Recent HIV incidence data were also available from two cohort studies of high-risk MSM conducted by the Department of Public Health (Jumpstart and HIVNET) (Susan Buchbinder). Both projects recruited high-risk MSM for HIV vaccine preparedness studies and prevention interventions. Many subjects participated in both cohorts. HIV incidence in Jumpstart was 2.7% per year overall, 2.9% per year among men under 25 years, and 2.6% per year for men over 25 years of age. HIV incidence was highest among Latino and African American MSM, 4.2% and 3.5% per year.

Table 2. Age stratified prevalence and incidence rates in MSM from 2 population based samples in San Francisco.

| Study | Prevalence (%) | Incidence (%/yr) |
|----------------------|----------------|------------------|
| SFYMHS (18-29 yrs) * | 18 | 1.6 |
| SFYMHS (18-29 yrs) # | 12 | 1.2 |
| GUMS (overall) | 25 | |
| 18-29 yrs | 9 | |
| 30-39 yrs | 23 | |
| 40-59 yrs | 38 | |
| SFYMHS (22-33 yrs)* | 15 | |
| GUMS (22-33 yrs) | 10 | |
| SFYMHS (18-24 yrs)* | | 1.0 |
| SFYMHS (25-29 yrs)* | | 2.0 |

* population-based sample

snowball-referral sample

Among white MSM HIV incidence was 2.4% per year. Overall HIV incidence in HIVNET was 2.4% per year. Unlike Jumpstart, HIV incidence was lower among younger men (<25 years), 1.9% per year, compared to older men, 2.5% per year. In HIVNET, African-American MSM had the highest incidence of HIV (4.7% per year), followed by Latinos (2.5% per year) and whites (2.1%). The Jumpstart and HIVNET HIV incidence figures may be higher than the overall MSM population in San Francisco due to the effort to recruit higher risk MSM, including STD patients.

Sentinel surveillance data from a variety of studies conducted by the HIV Seroepidemiology Unit were also summarized (Tim Kellogg). HIV prevalence from the Young Men's Study (YMS), a venue-based sample of MSM age 17 to 22 years, was 10% in 1992/93 and 7.8% in 1995/96. HIV prevalence among MSM clients of the

municipal STD clinic has declined from 50.1% in 1989 to 24.4% in 1996. Among MSM seeking repeat anonymous HIV testing, HIV incidence was 1.6% per year in 1996.

Another method to estimate HIV prevalence and incidence among MSM used back-calculation of AIDS case data (John Newmeyer). By this method, HIV prevalence among MSM was estimated to be 26% in 1997. Further it was estimated that this prevalence had been declining by two points per year until 1996, because HIV positive men were dying and being replaced by HIV-negative men who migrated in or “came out”. Newmeyer suggests that this decline slowed in 1997 because of the efficacy of “cocktail” therapies among HIV positive men.

After discussion of the above data, the following consensus was reached: HIV prevalence among MSM overall is 30% and the estimates ranged from 24-38%. HIV incidence is estimated to be 1.1% per year overall and to range from between 0.5 and 1.5% per year. HIV prevalence among MSM under age 30 is estimated to be 15% and to range from 9% to 18%. HIV incidence among MSM under 30 is believed to be 1.2% per year, ranging from 1 to 2% per year. Among MSM over 30 years of age, prevalence is estimated to be 33%, ranging from 23% to 38%. HIV incidence is believed to be slightly lower in older compared to younger MSM, at 1.0% per year. The highest HIV prevalence and incidence are believed to be among MSM who inject drugs: 35% and 2.0% per year, respectively. Prevalence among MSM-IDU is estimated to range from 14% to 49%.

IDU. Data from the Urban Health Study (UHS) comprised a sample of street-recruited IDU in San Francisco. In several years of cross-sectional samples, HIV prevalence peaked at 16% in 1993 dropping to 10.7% in 1996. Table 3 shows HIV prevalence by gender and sexual orientation among IDU in the Urban Health Study. Caution was advised in interpretation of sexual risk behavior groups in this population as up to 33% of IDU report no sexual activity.

Table 3. HIV prevalence in a street-based sample of IDU in San Francisco from the Urban Health Study.

| Urban Health Study Population | Prevalence (%) |
|-------------------------------|----------------|
| Overall (male and female) | 12.7 |
| Female heterosexual | 10.7 |
| Female bisexual | 17.4 |
| Female lesbian | 20.0 |
| Male heterosexual | 12.4 |
| Male bisexual | 10.7 |
| Male homosexual | 28.9 |

Other data on IDU were obtained from a random sampling strategy at street locations (Joe Gudyish). Based on comparisons with data available from Prevention Point Needle Exchange Program (NEP), the random sample is considered to be representative of NEP clientele. HIV prevalence among NEP clients was 14% in 1992, and 17% in 1993.

Additional data of HIV prevalence among IDU in treatment were made available by the HIV Seroepidemiology Unit. HIV prevalence in unlinked sentinel surveillance studies at a drug treatment center in 1996 was 9.9% among men and 10.9% among women (Table 4).

Consensus was reached that the prevalence of HIV among male and female IDU is 12%. While no empirical data were available regarding HIV incidence among IDU in San Francisco, an estimate of 1.0% per year would best account for the UHS finding of neither an increasing nor a decreasing trend in IDU prevalence, in spite of removal of HIV positive IDU through death.

Table 4. HIV Prevalence among IDU's entering methadone treatment (Tx) in San Francisco in 1996.

| IDU population entering methadone Tx | Prevalence (%) |
|--|----------------|
| African-American (Males & Females) | 22.4 |
| Asian/Pacific Islander (Males & Females) | 9.1 |
| Latino (Males & Females) | 13.0 |
| White (Males & Females) | 5.8 |
| Males overall | 9.9 |
| Females overall | 10.9 |

Heterosexuals. Estimates of the HIV infection rates among other adults/adolescents populations were based on data from several sources, including: the Survey of Childbearing Women (Tim Kellogg); screening of military recruits; unlinked surveys of adolescents entering Youth Guidance Center (Tim Kellogg), heterosexuals attending the municipal STD clinic (Charlotte Kent); and the Multicenter Study of Crack Cocaine and HIV Infection conducted as a part of the AMEN study in multiethnic neighborhoods (Carl Word).

The State conducted Survey of Childbearing Women has monitored HIV prevalence by unlinked testing of newborn infants over a 3-month sampling period from 1991 to 1995. HIV prevalence among women of childbearing age in San Francisco was 0.36% in 1991, 0.20% in 1992, 0.21% in 1993 and 0.21% in 1994, and 0.28% in 1995.

HIV prevalence among female attendees of the STD clinic has been stable for several years at 1.1% in 1993, 0.8% in 1994, and 1.5% in 1995. HIV prevalence among heterosexual male attendees of the STD clinic has shown a downward trend over the same period, from 2.3% in 1993 to 1.5% in 1995.

Preliminary data from the 1997 population-based study of women in low-income neighborhoods (YWS) indicates an HIV prevalence of 0.36% for women between the ages of 18 and 29 years. The estimate is similar to the HIV prevalence among women in the 1989 population-based AMEN study, 0.4%.

Low prevalence of HIV continue to be reported among military recruits, 50% of whom are typically under 19 years old. Among 1,969 San Franciscan recruits tested between 1991 and 1995, five were HIV positive (0.25%). Of note, over 33% of the military recruit population is Asian/Pacific Islander, representing the most substantial sample available of this ethnic population.

The Multicultural Study of Crack Cocaine and HIV Infection was a subset of the AMEN study and investigated HIV prevalence in the Bayview/Hunters Point area. It was designed to sample 400 crack users and 400 non-crack users. Among male crack users, HIV prevalence was 5.6%, and 2.0% among female crack users. In follow-up samples there were no incident HIV infections, however, rapid spread of HIV infection among crack users in Miami and New York could portend the same for San Francisco. Discussion ensued regarding other markers for HIV infection among this primarily African-American population, including declining STD rates, and lower overall HIV prevalence among the heterosexual population in San Francisco compared to Miami and New York.

Consensus was reached that overall HIV prevalence among the female non-IDU heterosexual population was between 0.067% and 0.13% (0.10%), or approximately 200-400 women in San Francisco. The figure includes consideration of the above points plus the number of female (non-IDU) AIDS cases currently living (N=121). HIV incidence was estimated to be 0.01% per year, or 1 new HIV infection for every 10,000 women. Among heterosexual males (non-IDU), HIV prevalence was estimated as 0.06% (150 currently infected in San Francisco), and incidence as 0.006% per year (16 new infections per year). The range for HIV prevalence among non-IDU heterosexual men is thought to be 0.008% to 0.1%, or 20 to 250 HIV infections.

Infants and children. Pediatric HIV surveillance in Northern California indicates

that there are 25 known, living cases in San Francisco (David Hill). The figure may be under-estimated due to four considerations: (1) surveillance can lag by 6 months, (2) one-third of infants born to HIV-positive mothers are lost to follow-up before infection status can be confirmed, (3) many pediatric HIV cases have "unknown" residence status, and (4) families with HIV-infected children often move to San Francisco for care after residence status is recorded elsewhere. The consensus estimate for the number of infants and children living with HIV was therefore set at 66. Approximately 10 HIV-positive pregnant women deliver in San Francisco each year. Considering the known rate of mother-to-child transmission combined with the availability of treatment to interrupt transmission, it is estimated that one infant born in San Francisco each year will become HIV-infected out of approximately 8,000 to 9,000 births.

Transfusion transmission. With universal screening of donated blood for HIV antibody and antigen, deferral of donors at risk, and other technologies available to eliminate contamination in blood products, the risk of HIV infection through transfusion is on the order of 1 per 300,000. While it is theoretically possible for San Franciscans to acquire HIV from blood products (due to the window period, false-negatives, and human error), the risk of transmission from transfusion is currently small in absolute and relative terms. The estimate of 1 infection due to blood products each year is offered to acknowledge the theoretical possibility. For simplicity, the present report includes existing HIV infections due to blood transfusion in the general heterosexual population.

Special populations: the homeless and marginally housed. A probability-based sample of homeless and indigent persons drawn from shelters, free meal programs, and low-cost residential hotels is currently underway in San Francisco in the Treatment Research on AIDS and Tuberculosis study (TREAT) (David Bangsberg, Marjorie Robertson). The study is ongoing and includes assessment of HIV and TB prevalence. Subjects include "literally homeless" adults (N = 530), and "marginally housed " adults (N=396). Literally homeless were defined as having spent the night prior to their interview on the street or in a shelter. The population size for the literally homeless ranges from 6,000 to 8,000 in San Francisco. The marginally housed were

sampled from low-income hotels (<\$400/month or \$15/day) in the Mission, Tenderloin and South of Market neighborhoods. The marginally housed population was estimated at 6,250. Both target populations include a large number of IDU, MSM, and persons engaging in commercial sex work.

Table 5 summarizes preliminary HIV prevalence estimates in the TREAT study population. Among the literally homeless, HIV prevalence ranges from 2% among non-IDU women to 31% among MSM-IDU. A similar pattern is observed among the marginally housed, with HIV prevalence ranging from 4% among non-IDU heterosexuals to 49% among MSM-IDU. Overall HIV prevalence was estimated as 7.1% among the literally homeless and 12% among the marginally housed.

Table 5. Estimated HIV Prevalence in homeless and marginally housed adults in the TREAT study in San Francisco in 1997

| Risk Group | Seroprevalence (%) | |
|-----------------------------|--------------------|---------------------------|
| | Homeless (N=530) | Marginally Housed (N=396) |
| MSM Men | | |
| Non-IDU | 24 | 41 |
| IDU | 31 | 49 |
| Injection Drug Users (ever) | | |
| Heterosexual Male | 5 | 8 |
| Female | 3 | 4 |
| Other Adult (non-IDU) | | |
| Heterosexual Male | 4 | 4 |
| Female | 2 | 4 |

7. HIV prevalence estimates by race/ethnicity

Table 6 provides the race/ethnicity stratification of HIV prevalence and incidence in San Francisco in 1997. Estimates are based on many of the same sources of information as described above, HIV sentinel surveillance, targeted prevalence studies, AIDS surveillance, and back calculation from AIDS case data. The majority of persons currently living with HIV infection are white (70%), most of whom are MSM men. Persons of color make up the remaining 30% of current HIV infections, largely injection drug users, women, infants and children. In 1992, it was estimated that 38.8% of HIV infections were among non-white racial/ethnic groups. AIDS surveillance shows that among AIDS cases currently alive, 29.7% are among persons of color. Figure 1 shows distributions of HIV infection and AIDS by race/ethnicity. Included are the 1997 estimate of the distribution of prevalent infections, the distribution of AIDS cases currently alive, the 1995 distribution of HIV infections from STD patients at the San Francisco City Clinic, and John Newmeyer's estimate of the distribution of all incident HIV infections in San Francisco.

by Race/Ethnicity.

[illegible]

8. Conclusion

Declines in HIV seroincidence rates among MSM were first observed in several cohort studies after 1984, concurrent with decreases in high-risk sexual behaviors. Since 1992 AIDS incidence and mortality have declined among MSM, the first indications of effective control of the epidemic in San Francisco. Among all other risk groups, AIDS incidence has declined since 1993, and mortality since 1995 (Appendix A). HIV prevention in the forms of community mobilization, public health efforts, government planning, advocacy groups, and scientific activities have contributed to this success (M.H. Katz).

The 1997 Consensus Conference on HIV offers a comprehensive look at the continuing successes and challenges of HIV prevention in San Francisco. However, some limitations should be pointed out. Estimates for MSM are likely to be better than any other risk group largely because of the methodologies employed and by the large number of studies conducted in this group. Because of this, we have more confidence in these estimates than estimates for other risk groups. Data for other risk groups are less available, and the numbers may be less conclusive. HIV seroincidence among IDUs, for instance, has not been comprehensively documented since the 1985-1990 period (A. Moss). New data on HIV infection in the homeless offers compelling evidence that the epidemic continues to move into marginalized populations with devastating effects. Data must be continually collected and assessed in all populations at risk to effectively monitor the epidemic and document trends.

HIV infection continues to decline in San Francisco. The decline is due, in large part, to the significant declines of HIV infection rates among MSM. Although similar declines are not as large among other risk groups, numerous indicators (eg, AIDS incidence, declines since the 1991 Consensus Meeting Report) point in the same direction. Despite these declines, HIV prevalence and incidence rates remain unacceptably high. Over 15 years into the HIV epidemic, the results of this meeting support a main premise: HIV infection prevention requires sustained, extensive, collaborative and targeted efforts by multiple allies committed to long term change.

Acknowledgments

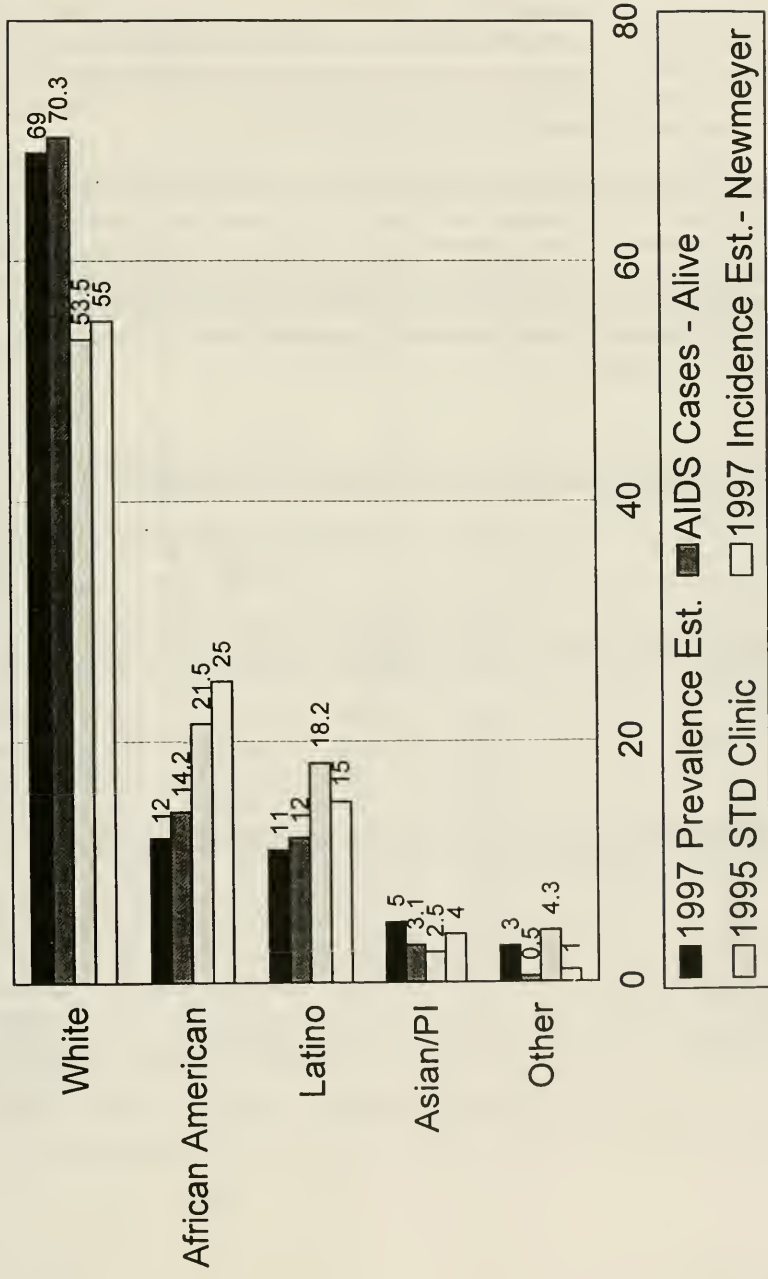
The San Francisco Department of Public Health wishes to thank all the researchers who participated in this meeting, especially those who took the time to present their data and for providing their feedback on the Report. We also thank Al Abramowitz, Community Substance Abuse Services SFDPH, Kristen Clements, Epidemiology and Evaluation Unit, SFDPH, Charlotte Kent, STD Control, SFDPH, Jeff Klausner, STD Control, SFDPH, Susan Samson, Irwin Memorial Blood Centers, and Laura Thomas, San Francisco AIDS Foundation for their participation. We acknowledge the logistic support and helpful assistance of Giuliano Nieri, Sandy Schwartz, Kurt Scheer, and Susa Black. Finally we wish to thank George Rutherford of the University of California at Berkeley School of Public Health for moderating the meeting.

Appendices:

- A. Summary of decline in AIDS deaths by sex, race and risk.
- B. 1991 Consensus Meeting Summary Tables. (Include overall and race/ethnicity).
- C. 1997 Consensus Meeting Participants and Invitees.
- D. References
- E. HIV Estimates for the San Francisco Metropolitan Area by Scott Holmberg.
- F HIV Estimates for the San Francisco Metropolitan Area by HRSA.
- G. Meeting Agenda and List of Presentations.

Figure 1: Distribution of AIDS/HIV infection by Race/Ethnicity.

Distribution of AIDS/HIV infection by Race/Ethnicity



Summary of Decline in AIDS Deaths by Sex, Race, and Risk

Trends in AIDS deaths follow the trends in AIDS cases. The number of AIDS cases diagnosed in San Francisco has declined since 1993. The decline in AIDS deaths was first observed in 1995. People of color, women, and injection drug users account for an increasing percentage among persons newly diagnosed with AIDS. Similar trends are observed among persons who have died with AIDS.

The number of AIDS deaths that occurred each year has continued to decline since 1995. There was a 21% decrease from 1994 to 1995, and a 36% decrease from 1995 to 1996. The decline in AIDS deaths in 1996 occurred mostly among whites (38%) and Asians (45%), and less among African Americans (26%) and Latinos (25%). Women accounted for 9% of decrease in 1996 compared with 36% of decrease among men. All risk groups appeared to have a substantial drop in AIDS deaths except injection drug users in whom deaths declined by only 2% in 1996.

Number of AIDS Deaths and Percent Change during 1994 and 1996

| | 1994 | 1995 [% change 94-95] | 1996 [% change 95-96] |
|------------------------|-------------|--------------------------|--------------------------|
| Sex | | | |
| Male | 1741 | 1374 [-21%] | 873 [-36%] |
| Female | 67 | 46 [-31%] | 42 [-9%] |
| Race | | | |
| White | 1307 | 1039 [-21%] | 643 [-38%] |
| African American | 231 | 170 [-26%] | 125 [-26%] |
| Latino | 195 | 151 [-23%] | 113 [-25%] |
| Asian | 62 | 51 [-18%] | 28 [-45%] |
| Native American | 13 | 9 [-31%] | 6 [-33%] |
| Risk | | | |
| MSM | 1472 | 1107 [-25%] | 707 [-36%] |
| IDU | 124 | 103 [-17%] | 101 [-2%] |
| MSM and IDU | 145 | 167 [+15%] | 85 [-49%] |
| Transfusion/Hemophilia | 21 | 13 [-38%] | 9 [-31%] |
| Heterosexual | 25 | 16 [-36%] | 6 [-63%] |
| Other/Unknown | 21 | 14 [-33%] | 7 [-50%] |
| Total | 1808 | 1420 [-21%] | 915 [-36%] |

ESTIMATES OF THE NUMBER OF PERSONS INFECTED WITH HIV IN SAN FRANCISCO BY RACE/ETHNICITY

SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH AIDS OFFICE

| RISK GROUP | WHITE | AFRICAN AMERICAN | LATINO | ASIAN/ PACIFIC IS. | NATIVE AMERICAN | OTHER | TOTAL |
|--|---------------|---------------------|--------------|-----------------------|--------------------|-------------|---------------|
| Gay and Bisexual Men | | | | | | | |
| Non-IDUs | 14,587 | 3,028 | 3,355 | 2,027 | 161 | NA | 23,158 |
| IDUs | 1,223 | 210 | 234 | 142 | 11 | NA | 1,820 |
| SUB-TOTAL | 15,810 | 3,238 | 3,589 | 2,169 | 172 | NA | 24,978 |
| Injection Drug Users | | | | | | | |
| Heterosexual Men | 418 | 637 | 103 | 21 | 8 | 2 | 1,188 |
| Women | 158 | 290 | 44 | 6 | 3 | 1 | 502 |
| SUB-TOTAL | 576 | 927 | 147 | 27 | 11 | 3 | 1,690 |
| Other Adults/Adolescents | | | | | | | |
| Heterosexual Men | 120 | 44 | 33 | 38 | 1 | 2 | 239 |
| Women | 376 | 139 | 72 | 46 | 4 | 2 | 639 |
| SUB-TOTAL | 496 | 183 | 105 | 84 | 6 | 4 | 878 |
| Infants and Children | | | | | | | |
| | 29 | 29 | 16 | 8 | 1 | 0 | 83 |
| TOTAL | 16,910 | 4,378 | 3,857 | 2,288 | 189 | 7 | 27,629 |
| HIV SEROPREVALENCE | 5.0% | 5.7% | 3.8% | 1.1% | 7.2% | 0.5% | 3.8% |
| LIVING AIDS CASES As of March 31, 1993) | 3,911 | 584 | 531 | 109 | 20 | NA | 5,155 |
| RATIO HIV INFECTION TO AIDS CASES) | 4.32 | 7.50 | 7.26 | 20.99 | 9.47 | NA | 5.36 |

1997 Consensus Meeting Contact List

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1996 Holmberg HIV Estimates

Persons living with HIV in San Francisco, San Mateo, and
Marin counties 1996

| Population | Prevalent infections | Incident infections |
|------------|-------------------------|------------------------|
| Total | 25900 | 944 |
| MSM | 22000 | 448 |
| IDU | 3300 | 374 |
| HET | 640 | 122 |

1996 HRSA HIV Estimates

Persons living with HIV in San Francisco, San Mateo, and
Marin counties 1996

| Population | Prevalent infections |
|------------|----------------------|
| Total | 16227 |
| MSM | 12800 |
| IDU | 2100 |
| HET | 450 |
| Other | 877 |

Consensus meeting 1997

1997 HIV CONSENSUS MEETING

Monday, May 12, 1997

AGENDA

- 8:30 - 9:00 **Registration and Coffee**
- 9:00 - 9:20 **Introductions, Agenda Review, and Structure of Meeting**
George Rutherford, M.D.
- 9:20 - 10:40 **Presentations of Data: Cutting across multiple populations**
- Warren Winkelstein, M.D. *"All Epidemics are Local: Dynamics of HIV/AIDS in San Francisco"*
- Willi McFarland, M.D., Ph.D. *"HIV Prevalence and Incidence Estimates for San Francisco"*
- Tim Kellogg, M.S. *"Overview of HIV Sentinel Surveillance in San Francisco, 1991 - present"*
- John Newmeyer, Ph.D. *"Back Calculation as a Method for Estimating HIV Prevalence and Incidence"*
- Marjorie Robertson, Ph.D. and David Bangsberg, M.D. *"HIV Prevalence in the Homeless and Marginally Housed"*
- Carl Word, Ph.D. *"Seroconversion Among Crack Smokers in San Francisco"*
- 10:40 - 10:50 **BREAK**
- 10:50 - 11:30 **Presentation of Data: MSM, MSM/F**
- Joe Catania, Ph.D. *"Estimating Population Size of MSM in San Francisco"*
- Dennis Osmond, Ph.D. *"HIV Incidence in the San Francisco Young Men's Health Study"*
- Sally Blower, Ph.D. *"Modeling HIV Incidence Among San Francisco MSM"*
- Susan Buchbinder, M.D. *"HIV Seroincidence in Cohort of High-Risk MSM in San Francisco"*

- 11:30 - 12:30 **Discussion of Data and Vote on Estimates - MSM, MSM/F**
Including discussion of estimates by sub-populations at potentially higher or lower HIV prevalence or incidence
- 12:30 - 1:00 **BREAK + LUNCH**
- 1:00 - 1:30 **Presentation of Data: IDUs**

 Alex Kral, M.S. *"HIV Prevalence among Street-Recruited IDUs in San Francisco"*

 Joe Guydish, Ph.D. *"Seroprevalence among Three Cross Sectional Samples of NEP Clients"*
- 1:30 - 2:20 **Discussion of Data and Vote on Estimates - IDUs**
Including discussion of estimates by sub-populations at potentially higher or lower HIV prevalence or incidence
- 2:20 - 3:10 **Review of Previously Presented Data, Discussion and Vote on Estimates Women and Heterosexual Men**
Including discussion of estimates by sub-populations at potentially higher or lower HIV prevalence or incidence
- 3:10 - 3:20 **BREAK**
- 3:20 - 3:30 **Presentation of Data: Infants and Children**

 Willie McFarland, M.D., Ph.D. *"HIV Prevalence and Incidence among Infants and Children"*
- 3:30 - 3:50 **Discussion of Data and Vote on Estimates - Infants/Children**
- 3:50 - 4:20 **Discussion of Data and Vote on Estimates for Overall Population**
Including discussion of estimates for other populations not covered above.
- 4:20 - 4:50 **Review of Votes and Gaps in Votes**
- 4:50 - 5:00 **Conclusion and Next Steps**

